



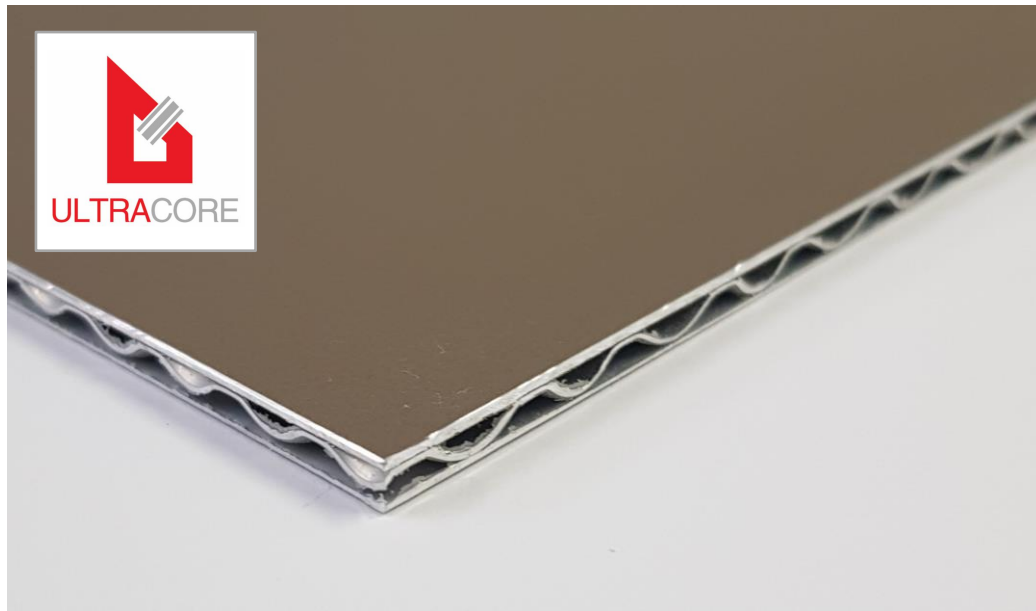
We've Got It Covered

ULTRACORE vs SOLID Aluminium

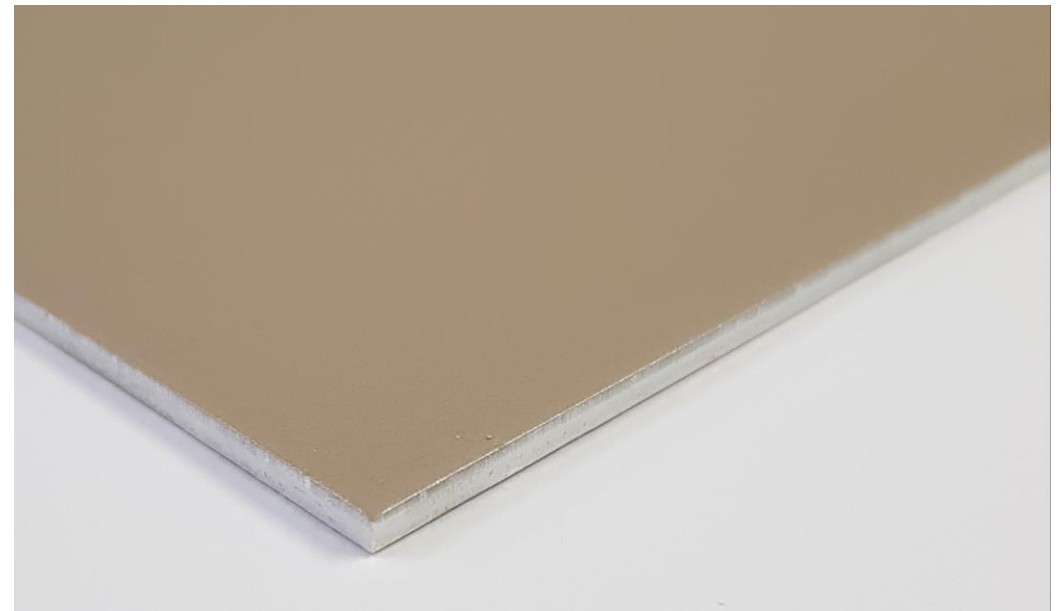
Fire Performance | Thermal Performance | Water-proofing
An Impartial Overview based on Logic, Testing and Evidence



ULTRACORE & SOLID panels are both 'DTS' non-combustible – firstly lets take a look how.



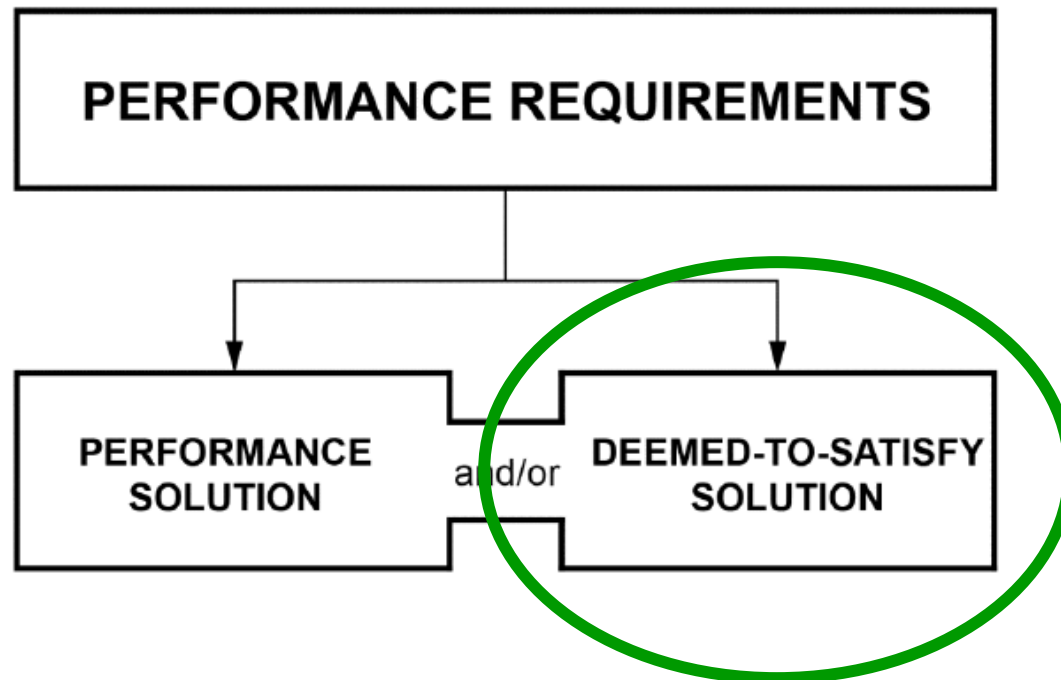
ULTRACORE



Solid Aluminium Panel

Deemed-to-Satisfy Compliance in NCC 2019

1. Deemed-to-Satisfy Solution (Clause C1.9)
2. Performance Solution (CV3 Verification Method)



Test Certificates used to Confirm C1.9 Compliance

- AS 1530.1
- AS 1530.3
- NATA Accredited
- AS 1530.2 for Sarking



Certificate of Test

Quote No.: NK7601 REPORT No.: FNCL1679

COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994

TRADE NAME: Ultracore G2

SPONSOR: Blue Chip Group
62 Division Street
Welshpool WA
AUSTRALIA

DESCRIPTION OF TEST SAMPLE: The sponsor described the tested specimen as the corrugated profiled aluminium core of the Ultracore G2 aluminium composite sandwich panel.

Nominal thickness: 0.3-mm to 0.5-mm
Nominal mass: 4 kg/m² (measured); 4.564 kg/m² (specified by sponsor)
Colour: silver

TEST PROCEDURE: Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials. An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.

RESULTS:

Mean furnace thermocouple temperature rise.....	11.0°C
Mean specimen centre thermocouple temperature rise.....	14.2°C
Mean specimen surface thermocouple temperature rise.....	5.4°C
Mean duration of sustained flaming.....	0 seconds
Mean mass loss.....	0.09 %

DESIGNATION: The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.

These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.

DATE OF TEST: 3 September 2015 **TEST NUMBER:** 11476
Issued on the 4th day of April 2016 without alterations or additions.

H. Alarde
Heherson Alarde
Testing Officer

B. Roddy
Brett Roddy
Team Leader, Fire Testing and Assessments

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NATA Accredited Laboratory
Number: 165
Corporate Site No 3625
Accredited for compliance with ISO/IEC 17025.

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Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2

SPONSOR: Blue Chip Group
62 Division Street
Welshpool WA
AUSTRALIA

DESCRIPTION OF TEST SAMPLE: The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:
Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
Layer 2: 0.1-mm thick adhesive film;
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;
Layer 4: 0.1-mm thick adhesive film;
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.
The layers were adhered together using an adhesive film glue at an application rate of 96 g/m².
Nominal total thickness: 4 mm
Nominal total mass: 3.7 kg/m² (measured); 4.564 kg/m² (specified by sponsor)
Colour: silver (exposed face coating)

TEST PROCEDURE: Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m ²)	N/A	N/A
Smoke Release (log ₁₀ D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 12 August 2015 **TEST NUMBER:** 11459
Issued on the 4th day of April 2016 without alterations or additions.

H. Alarde
Heherson Alarde
Testing Officer

B. Roddy
Brett Roddy
Team Leader, Fire Testing and Assessments

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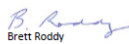

ULTRACORE is DTS compliant as per C1.9(e)(vii)

- (e) The following materials may be used wherever a *non-combustible* material is *required*:
- (i) Plasterboard.
 - (ii) Perforated gypsum lath with a normal paper finish.
 - (iii) Fibrous-plaster sheet.
 - (iv) Fibre-reinforced cement sheeting.
 - (v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.
 - (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
 - (vii) Bonded laminated materials where—
 - (A) each lamina, including any core, is *non-combustible*; and
 - (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
 - (C) the *Spread-of-Flame Index* and the *Smoke-Developed Index* of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

AS 1530.1 Test for Material Combustibility is Required for DTS Compliance with C1.9(e)(vii)(A)

- AS 1530.1
- Combustibility test
- Each lamina must PASS
- Including the core



Certificate of Test	
Quote No.: NK7601	REPORT No.: FHC11679
COMBUSTIBILITY TEST FOR MATERIALS IN ACCORDANCE WITH AS 1530.1-1994	
TRADE NAME:	Ultracore G2
SPONSOR:	Blue Chip Group 62 Division Street Welshpool WA AUSTRALIA
DESCRIPTION OF TEST SAMPLE:	The sponsor described the tested specimen as the corrugated profiled aluminium core of the Ultracore G2 aluminium composite sandwich panel. Nominal thickness: 0.3-mm to 0.5-mm Nominal mass: 4 kg/m ² (measured); 4.564 kg/m ² (specified by sponsor) Colour: silver
TEST PROCEDURE:	Five (5) samples were tested in accordance with Australian Standard 1530 Methods for fire tests on building materials, components and structures, Part 1- 1994: Combustibility Test for Materials. An alternative suitable insulating material was used to fill the annular space between the furnace tubes, as specified in Clause 4.2 of ISO 1182:2010.
RESULTS:	Mean furnace thermocouple temperature rise..... 11.0°C Mean specimen centre thermocouple temperature rise..... 14.2°C Mean specimen surface thermocouple temperature rise..... 5.4°C Mean duration of sustained flaming..... 0 seconds Mean mass loss..... 0.09 %
DESIGNATION:	The material is NOT deemed COMBUSTIBLE according to the test criteria specified in Clause 3.4 of AS 1530.1-1994.
These test results relate only to the behaviour of the test specimens of the material under the particular conditions of the test and they are not intended to be the sole criterion for assessing the potential fire hazard of the material in use.	
DATE OF TEST: 3 September 2015	TEST NUMBER: 11476
Issued on the 4 th day of April 2016 without alterations or additions.	
 Heherson Alarde Testing Officer	 Brett Roddy Team Leader, Fire Testing and Assessments
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 NATA Accredited Laboratory Number: 185 Corporate Site No 3625 Accredited for compliance with ISO/IEC 17025.	
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Aluminium Core Panel

ULTRACORE Aluminium Core Panel has been tested to AS 1530.1 by NATA accredited CSIRO and the laminas did not flame or increase the temperature by more than 50°C = PASS.

Accordingly, the ULTRACORE laminas, including the core, were not deemed **COMBUSTIBLE** as per criteria (A), the first of the criteria for a bonded laminated material to be DTS non-combustible as per C1.9(e)(vii).



NATA Assessment to Confirm Adhesive Thickness as per C1.9(e)(vii)(B) is Recommended

- NATA Assessment
- To confirm glue thickness
- Max. 1mm per layer
- Max. 2mm total



Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2
SPONSOR: Blue Chip Group
62 Division Street
Welshpool WA
AUSTRALIA

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layer:
Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
Layer 2: 0.1-mm thick adhesive film;
Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;
Layer 4: 0.3-mm thick adhesive film;
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.
The layers were adhered together using an adhesive film glue at an application rate of 96 g/m².
Nominal total thickness: 4 mm
Nominal total mass: 3.7 kg/m² (measured); 4.564 kg/m² (specified by sponsor)
Colour: silver (exposed face coating)

TEST PROCEDURE: Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m ²)	N/A	N/A
Smoke Release (log ₁₀ D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 12 August 2015 TEST NUMBER: 11459
Issued on the 4th day of April 2016 without alterations or additions.

Meberson Alarde
Meberson Alarde
Testing Officer

Brett Roddy
Brett Roddy
Team Leader, Fire Testing and Assessments

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ULTRACORE Aluminium Core Panel has the glue applied as **0.1mm dry-film** layers so there is no way it can be thicker than stated. It is **10% (1/10th)** of the **NCC 2019** allowance.

Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2
SPONSOR: Blue Chip Group
62 Division Street
Welshpool WA
AUSTRALIA

DESCRIPTION OF SAMPLE:

The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:

Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
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Layer 4: 0.1-mm thick adhesive film;
Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.

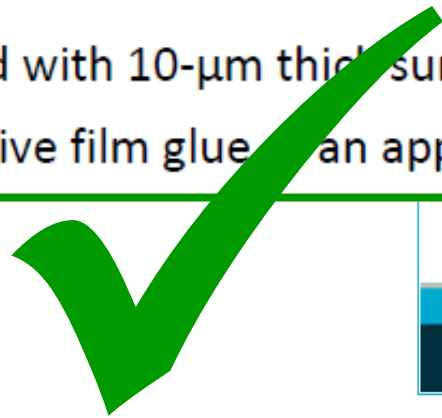
The layers were adhered together using an adhesive film glue at an application rate of 96 g/m².

Nominal total thickness: 4 mm
Nominal total mass: 3.7 kg/m² (measured); 4.564 kg/m² (specified by sponsor)
Colour: silver (exposed face coating)

The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:

- Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
- Layer 2: **0.1-mm** thick adhesive film;
- Layer 3: 0.3-mm thick corrugated profiled aluminium core, expanded to 2.6-mm;
- Layer 4: **0.1-mm** thick adhesive film;
- Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.

The layers were adhered together using an adhesive film glue at an application rate of 96 g/m².



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AS 1530.3 Test for Fire Hazard Properties is Required for DTS Compliance with C1.9(e)(vii)(C)

- AS 1530.3
- Fire Hazard Properties
- 0 for Spread-of-Flame
- 3 for Smoke-Developed



Certificate of Test

Quote No.: NZ7601 REPORT No.: FNE11680

AS/NZS 1530.3:1999 SIMULTANEOUS DETERMINATION OF IGNITABILITY, FLAME PROPAGATION, HEAT RELEASE AND SMOKE RELEASE

TRADE NAME: Ultracore G2
 SPONSOR: Blue Chip Group
 62 Division Street
 Welshpool WA
 AUSTRALIA

DESCRIPTION OF SAMPLE: The sponsor described the tested specimen as an aluminium composite sandwich decorative panel comprised of the following layers:
 Layer 1: 0.7-mm thick aluminium face finished with 30-µm thick surface finish;
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 Layer 4: 0.3-mm thick adhesive film;
 Layer 5: 0.5-mm thick aluminium face finished with 10-µm thick surface finish.
 The layers were adhered together using an adhesive film glue at an application rate of 96 g/m².
 Nominal total thickness: 4 mm
 Nominal total mass: 3.7 kg/m² (measured); 4.564 kg/m² (specified by sponsor)
 Colour: silver (exposed face coating)

TEST PROCEDURE: Six samples were tested in accordance with Australian Standard 1530, Method for fire tests on building components and structures, Part 3: Simultaneous determination of ignitability, flame propagation, heat release and smoke release, 1999. For the test, each sample was clamped to the specimen holder in four places.

RESULTS: The following means and standard errors were obtained:

Parameter	Mean	Standard Error
Ignition Time (min)	N/A	N/A
Flame Spread Time (s)	N/A	N/A
Heat Release Integral (kJ/m ²)	N/A	N/A
Smoke Release (log ₁₀ D)	-2.075	0.147

For regulatory purposes these figures correspond to the following indices:

Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1

The results of this fire test may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of fire hazard under all fire conditions.

DATE OF TEST: 12 August 2015 TEST NUMBER: 11459
 Issued on the 4th day of April 2016 without alterations or additions.

Heherson Alarde
 Heherson Alarde
 Testing Officer

Brett Roddy
 Brett Roddy
 Team Leader, Fire Testing and Assessments

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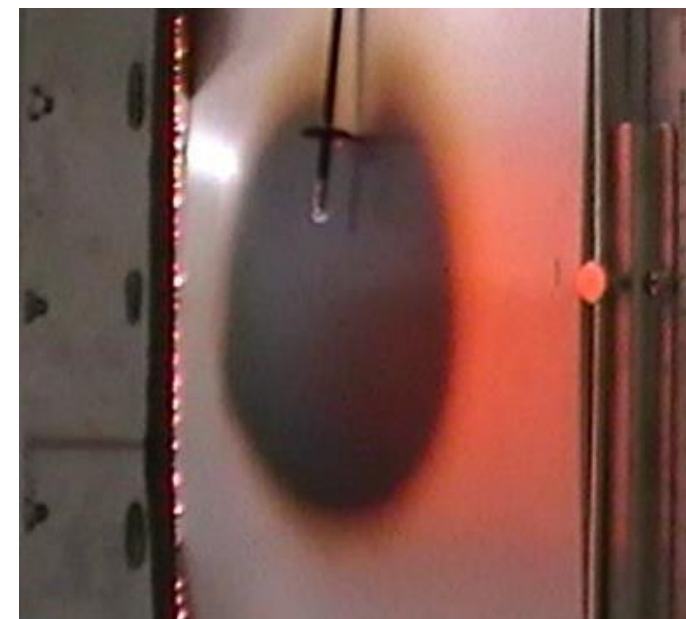
ULTRACORE - AS 1530.3 Test

As per the requirements of NCC 2019, this test involves the bonded laminate material as a whole being tested to AS 1530.3. Finished samples are mounted vertically in front of a radiant heat source to simultaneously determine;

- Ignitability Index = 0
- Spread-of-Flame Index = 0
- Heat Evolved Index = 0
- Smoke-Developed Index = 1



Ignitability Index (0-20)	Spread of Flame Index (0-10)	Heat Evolved Index (0-10)	Smoke Developed Index (0-10)
0	0	0	1



ULTRACORE Results Table as per C1.9(e)(vii)

ULTRACORE Non-combustible Aluminium Core Panel

TEST	RESULT	
AS 1530.1*	Not deemed COMBUSTIBLE	
NATA Assessment**	Adhesive per Layer	0.1mm
	Total Adhesive	0.2mm
AS 1530.3***	Spread-of-Flame	0
	Smoke-Developed	1



*Refer CSIRO AS 1530.1 Certificate #: FNC11679

**Refer CSIRO Assessment Number #: FCO-3188

***Refer CSIRO AS 1530.3 Certificate #: FNE11680



SOLID is DTS compliant as per C1.9(e)(v)

- (e) The following materials may be used wherever a *non-combustible* material is *required*:
 - (i) Plasterboard.
 - (ii) Perforated gypsum lath with a normal paper finish.
 - (iii) Fibrous-plaster sheet.
 - (iv) Fibre-reinforced cement sheeting.
 - (v) Pre-finished metal sheeting having a *combustible* surface finish not exceeding 1 mm thickness and where the *Spread-of-Flame Index* of the product is not greater than 0.
 - (vi) *Sarking-type materials* that do not exceed 1 mm in thickness and have a *Flammability Index* not greater than 5.
 - (vii) Bonded laminated materials where—
 - (A) each lamina, including any core, is *non-combustible*; and
 - (B) each adhesive layer does not exceed 1 mm in thickness and the total thickness of the adhesive layers does not exceed 2 mm; and
 - (C) the *Spread-of-Flame Index* and the *Smoke-Developed Index* of the bonded laminated material as a whole do not exceed 0 and 3 respectively.

SOLID Aluminium Results as per C1.9(e)(v)

Non-combustible Solid Aluminium Panel

TEST	RESULT	
NCC 2019 C1.9(e)(v)	Deemed-to-Satisfy Non-combustible	
AS 1530.1*	Not deemed COMBUSTIBLE	
Paint Thickness	Less than 1mm	<0.05mm
AS 1530.3**	Spread-of-Flame	0
	Smoke-Developed	1

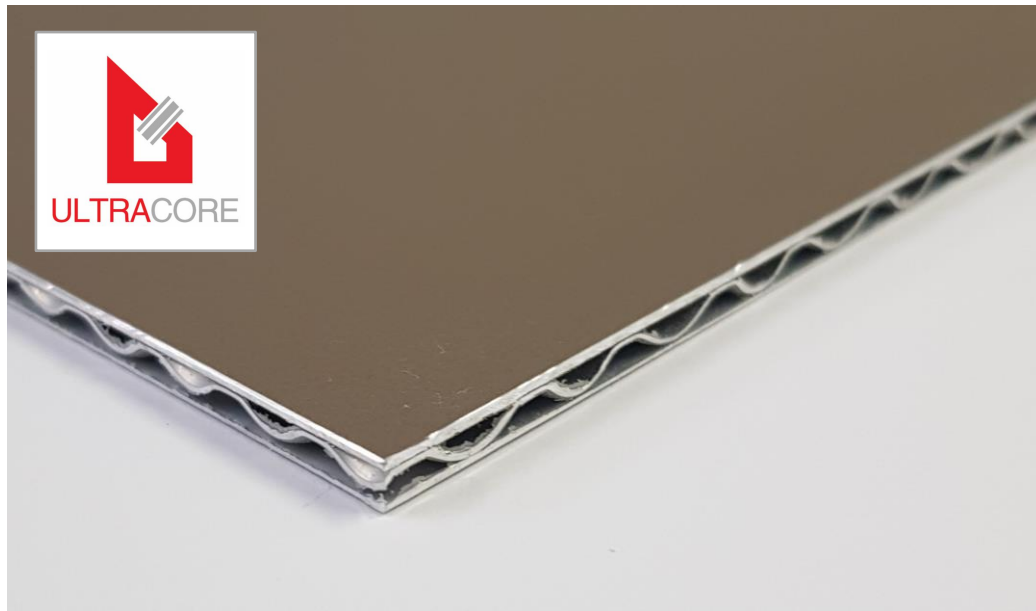


*Refer CSIRO AS 1530.1 Certificate #: FNC12287

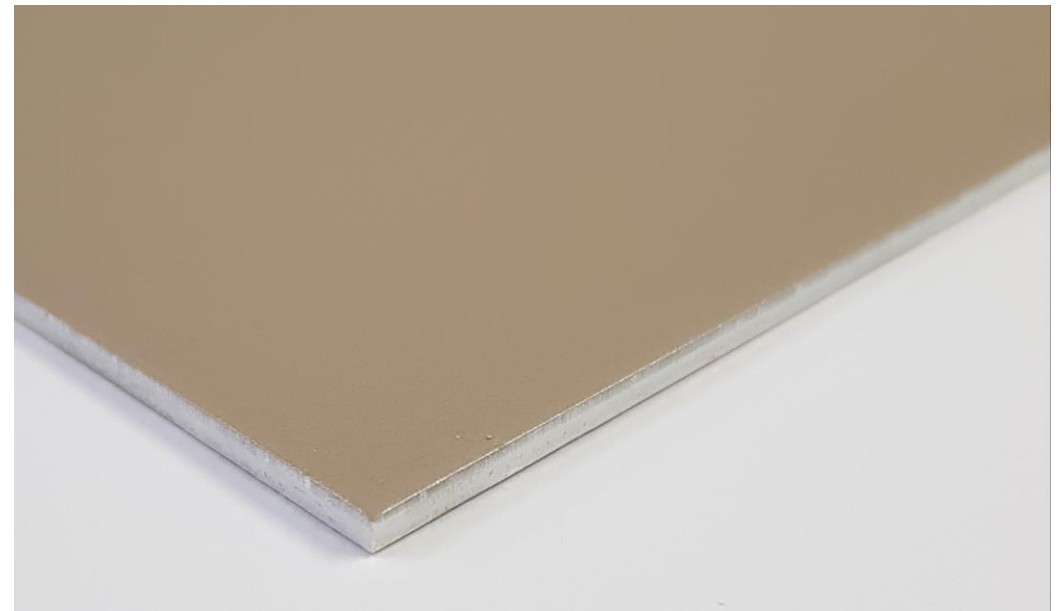
**Refer AWTA AS 1530.3 Certificate #: 18-004772



Now we know that both products are **'DTS'** non-combustible, how else do they compare?



ULTRACORE



Solid Aluminium Panel

Both offer the same general benefits.....

- Both products are DTS non-combustible and compliant for all buildings
- Proven installation methods with no practical alternatives in some applications
- Versatile colours, shapes and sizes
- 30+ years life expectancy with low maintenance (PVDF Coil Coating)
- 100% recyclable with no waste going to landfill
- Concealed / colour-matched fixing systems
- Excellent corrosion resistance
- Excellent structural strength and crack resistance
- High rigidity to weight ratio with excellent flatness
- Established skilled installer network
- Same day cut-to-size panels for tight schedules



Both use the same excellent paint technology.....

PVDF Fluoropolymer

The higher density of fluorine atoms in PVDF provides excellent resistance to degradation by UV radiation, chemical and airborne pollution, severe weather, and environmental conditions such as salt spray or sand.

Lifespan is typically 30+ years.

FEVE Fluoropolymer

Due to lower density of fluorine atoms and vinyl in FEVE resins, these coatings are more susceptible to UV degradation, however they can provide **higher gloss values** than PVDF.

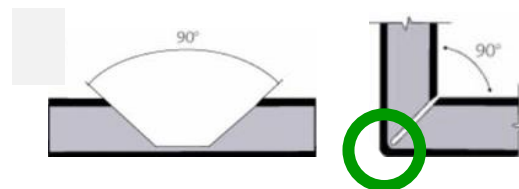
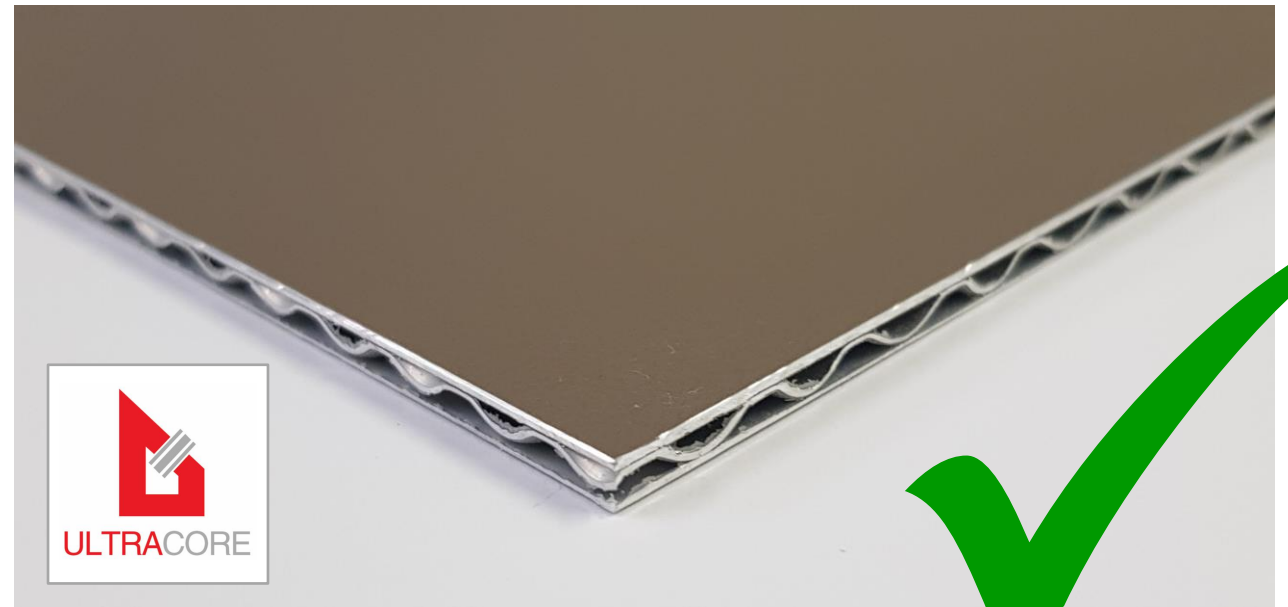
Lifespan is typically 25+ years.





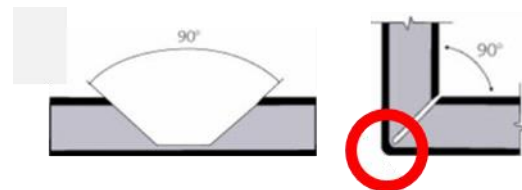
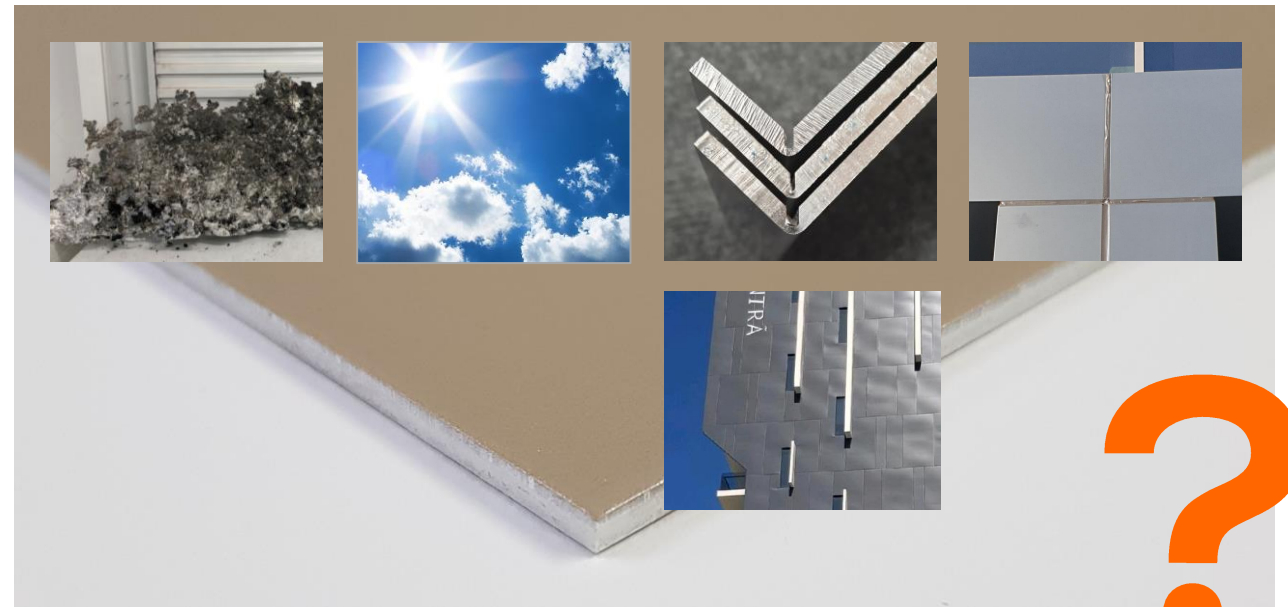
ULTRACORE Aluminium Core Panel

- DTS compliant for types A, B & C construction
- Category D insurance rating (lowest risk)
- All waste and cladding materials is 100% recyclable (NO landfill)
- 4kg/m² total panel weight
- Low debris quantity
- Low thermal conductivity
- Fast to fabricate
- No risk of score-fractures when v-grooved



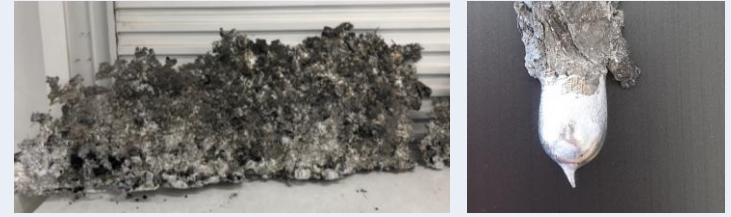


SOLID Aluminium Panel in Comparison

- DTS compliant for types A, B & C construction
- Category D insurance rating (lowest risk)
- All waste and cladding materials is 100% recyclable
- 8kg/m² total panel weight
- High debris quantity
- High thermal conductivity
- Slow to fabricate (\$\$\$)
- High risk of score-fractures when v-grooved



Comparison of Full-scale Testing Performance

AS 5113 TEST CRITERIA	ULTRACORE	SOLID ALUMINIUM	COMPARISON
			
5.4.5(a) Tw5m	483°C (Pass)	Exceeds 600°C (Fail)	SOLID Fails
5.4.5(b) Tcavity5m	152°C (Pass)	Exceeds 250°C (Fail)	SOLID Fails
5.4.5(b) Tinsulation5m	47°C (Pass)	Exceeds 250°C (Fail)	SOLID Fails
5.4.5(c) Tunexposedside0.9m	No Failure (Pass)	Exceeds 180°C (Fail)	SOLID Fails
5.4.5(d) Flaming	No Flaming (Pass)	No Flaming (Pass)	Equivalent (both pass)
5.4.5(d) Openings	No Openings (Pass)	No Openings (Pass)	Equivalent (both pass)
5.4.5(e) Spread	No Spread (Pass)	No Spread (Pass)	Equivalent (both pass)
5.4.5(f) Debris Flaming	Flaming Debris (Fail)	Flaming Debris (Fail)	Any Test with Sealant Fails This
5.4.5(g) Debris Mass	15.5kg (Fail)	46.4kg (Fail)	SOLID has 3 x more Debris

“While neither product requires this for compliance, ULTRACORE panel performs much better in full-scale testing”

Comparison of Thermal Conductivity (W/mK)

AWTA PRODUCT TESTING
 Australian Wool Testing Authority Ltd - trading as AWTA Product Testing
 A.B.N 43 006 014 100
 1st Floor, 151 Racecourse Road, Flemington, Victoria 3051
 P.O. Box 240, North Melbourne, Victoria 3051
 Phone (03) 9371 2400 Fax (03) 9371 2459

TEST REPORT

Client : Blue Chip Group Pty Ltd
 62 Division Street
 Welshpool WA 6108


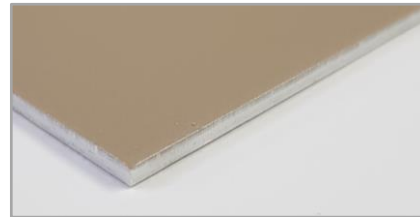
Test Number : 19-002245
 Issue Date : 31/05/2019
 Print Date : 17/06/2019
 Order Number : Metal- RV

Sample Description Clients Ref : "ULTRACORE #UC1005"
 Aluminium Core Panel
 Colour : Snow White

ASTM C518-2017 **Steady-State Thermal Transmission Properties by Means of the Heat Flow Apparatus**

Date of Testing
 Test Date
 Test Apparatus
 Sample Orientation
 Heat Flow Direction
 Mean Test Temperature
 Temperature Differential
 Average Thermal Gradient
 Estimated uncertainty in results

Specimen
 Specimen Thickness (as received)
 Specimen Thickness (as tested)

205

Thermal Conductivity		
Material	Thermal conductivity (cal/sec)/(cm ² C/cm)	Thermal conductivity (W/m K)*
Aluminum	0.50	205.0
Copper	0.99	385.0
Gold	...	314
Brass	...	109.0
Aluminum	0.50	205.0

Aluminum

0.50

205.0



Measured Thermal Conductivity 2.0064 3.0648 W/m.K

Thermal Resistance 0.00 0.00 m²/KW

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Accredited Heat Testing Activity Ltd
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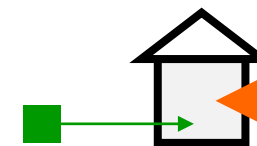
Accredited for compliance with ISO/IEC 17025 - Testing
 - Chemical Testing Accreditation No. 993
 - Mechanical Testing Accreditation No. 999
 - Performance & Approval Testing Accreditation No. 1356

AWTA LIMITED

Approved Signatory: [Signature]
 Michael A. JACKSON (S. 01/19/14)
 MANAGING DIRECTOR



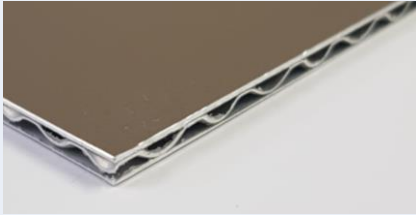


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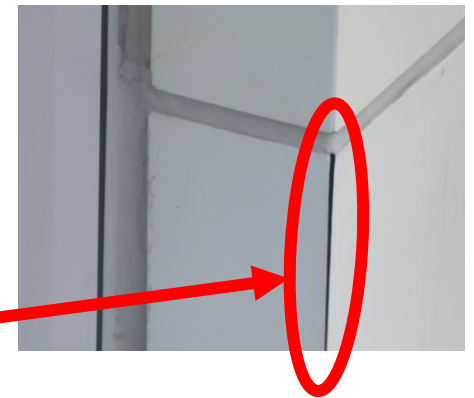
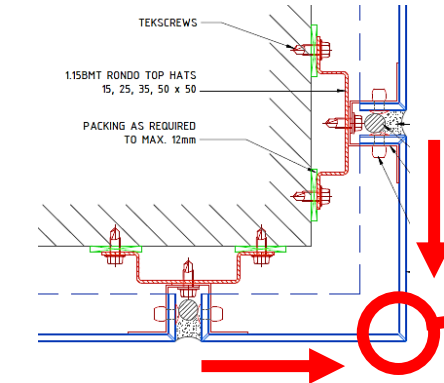


80 x more for Solid Aluminium

"ULTRACORE panel has 80 x lower rate of heat transfer into a building than Solid Aluminium panels"

Comparison of V-grooved Corner Durability

90° V-GROOVED FOLD TEST - 0.8mm (+/-0.1mm) left at base - Result is no. of folds to failure - Averaged over 150 samples - Includes all common alloys	ULTRACORE 	SOLID ALUMINIUM 	COMPARISON 
90° with 2.5mm Flat	9.85 Folds	5.90 Folds	ULTRACORE is 67% more durable
90° with 2.5mm Radius (Don't Use)	5.80 Folds	3.81 Folds	ULTRACORE is 52% more durable
90° with 3.5mm Flat	9.25 Folds	7.08 Folds	ULTRACORE is 31% more durable



"ULTRACORE is suitable for v-grooving because the front skin is not impacted and it has low thermal conductivity"

Comparison of Waterproofing Performance

Aluminium Core Panels – Proven System

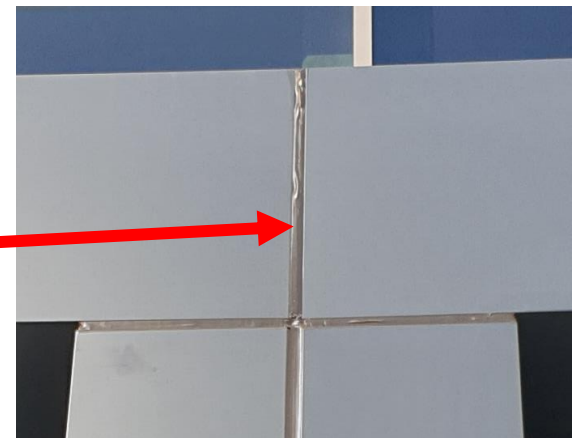
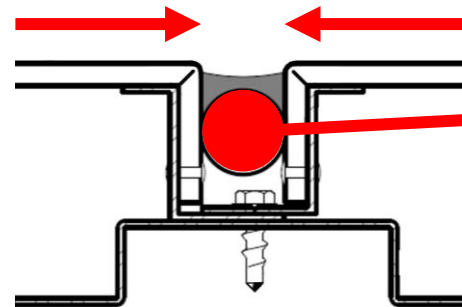
This is because they have low thermal conductivity, similar to ACP's with millions of M2 installed globally over 40 years.

Solid Aluminium – Not so Proven

There is concern that the high expansion & contraction will result in future waterproofing issues due to sealant failure.

Solution: Reduce maximum panel sizes for Solid Aluminium.

“Decades of use prove that ULTRACORE panels will work with the cassette-fix system”



Comparison of Oil Canning Resistance

There is a reason why globally we moved away from solid aluminium to bonded laminates 40 years ago – they evenly distribute tension through the panel to prevent oil canning:

The mechanical properties of ULTRACORE panel evenly distribute tension across the panels to greatly reduce oil canning



Oil canning is the visible waviness caused by uneven distribution of tension in a solid sheet material.

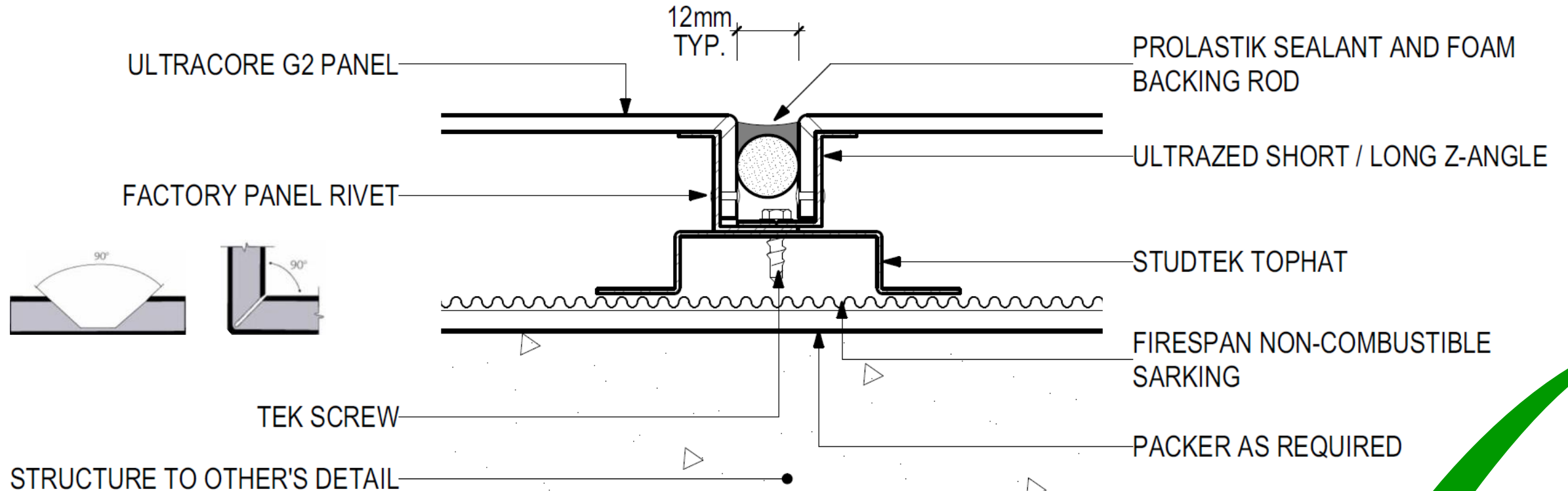


Solution: Increase number of stiffeners for Solid Aluminium.

“Bonded laminated materials such as ULTRACORE evenly distribute tension through the panel to prevent oil canning”

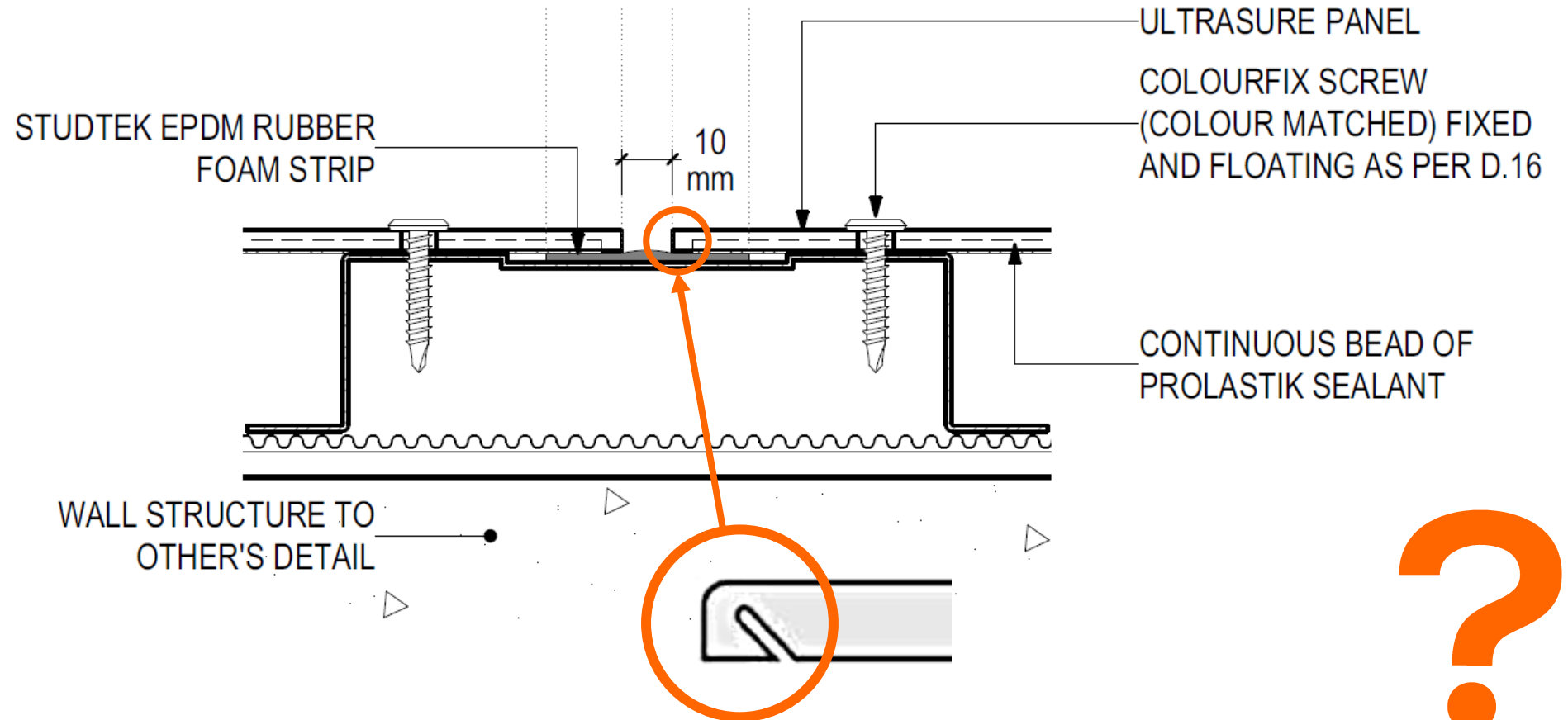
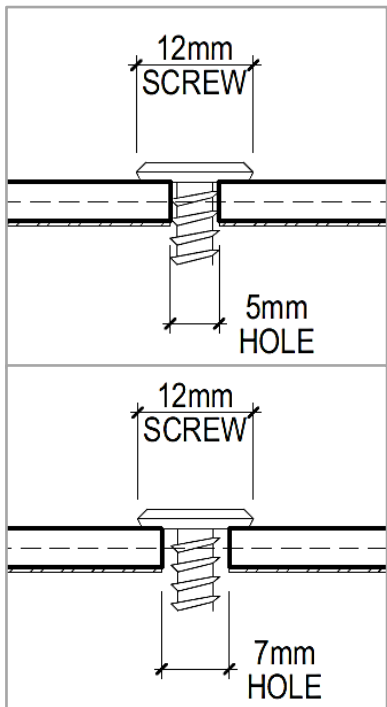
Concealed Fix – Only suitable for ULTRACORE

Mechanical Cassette Fix System (V-groove Route & Return)



Face Fix – The only suitable method for SOLID

(V-grooving and folding SOLID aluminium panels is **NOT** recommended)



ULTRACORE Benefits vs SOLID Aluminium

- All the benefits of SOLID **excluding rolling tighter than 2m radius***
- AS 5113 testing to prove superior 'real-world' fire safety and NO fire spread
- **80 x lower thermal conductivity for greater fire safety and section J compliance****
- **1/3 the amount of debris in a fire scenario****
- Can be installed in the cassette-fix system**
- Concealed fixings and wrapped corners/parapets**
- **Much greater resistance to oil canning****
- **Much faster to fabricate = cost savings****
- **50% less weight for structural & labour savings****
- **50% less carbon footprint****
- ICA category D insurance rating (lowest risk)

**It can still be rolled tight by routing out the core as shown*

***Compared to Solid Aluminium panels*



CONCLUSION: While we can supply all options including both DTS aluminium panels and a steel-skin panel called ULTRASKIN, all the available testing & real-world evidence clearly shows that ULTRACORE panel offers the best outcomes across almost all key considerations.

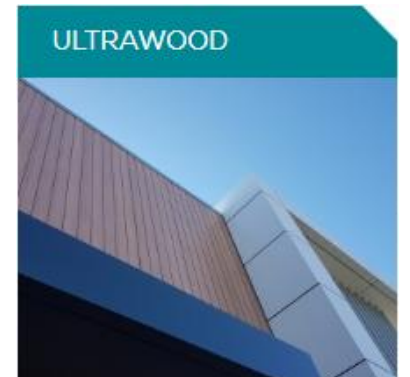


ULTRACORE



Solid Aluminium Panel

Which BLUECHIP Products are DTS Compliant?



How do I Specify Fully Compliant DTS Systems?

SPECIFICATION TEMPLATE
ULTRACORE Non-combustible Aluminium Core Panel

1. SCOPE OF WORK

The scope of work includes the design, supply, fabrication and installation of ULTRACORE non-combustible aluminium core panel, complete with all necessary sub-structures, anchors, hardware and fittings to provide a total installation and cladding system from the structure out.

2. MATERIAL AND FINISHES

Cladding Material:
Aluminium cladding material shall be supplied by Blue Chip Group Pty Ltd (Ph: 08 9451 2344) comprising of a 4mm thick aluminium core panel with 0.7mm face skin and 0.5mm rear skins of aluminium sandwiching a non-combustible 2.6mm aluminium core;

- ULTRACORE, 4mm, with minimum 3003 H24 aluminium alloy skins.

****NO ALTERNATIVE MATERIALS WILL BE ACCEPTED FOR THIS PROJECT****

Colour Selection:
Refer to exterior finishes schedule.
(Select colour code/s from the Finishes tab at the below link)
<http://www.bluechipgroup.net.au/facade-cladding-perth/non-combustible-cladding-perth>

Fire Properties:
Manufactured by Blue Chip Group Pty Ltd; ULTRACORE is a DTS Non-Combustible product in accordance with NCC 2019 clause C1.9(e)(vii) when tested to AS1530.1 and AS1530.3.

ULTRACORE Aluminium Core Panel		
TEST STANDARD	RESULT	
NCC C1.9(e)(vii)	PASS (Deemed Non-combustible)	
AS1530.1	PASS (Deemed Non-combustible)	
AS1530.3	PASS	Ignitability Index 0
	PASS	Heat Evolved 0
PASS	Spread of Flame 0	
	PASS	Smoke Developed 0-1

Applied Finish:
The external panel surface shall be factory prefinished by the manufacturer with a Fluoropolymer coating of either PVDF or FEVE or combination of both applied through a continuous coil coating process. The coated surface shall meet or exceed the minimum requirements of: AAMA 2605 -11 "Voluntary Specifications, Performance Requirements and Test Procedures for Superior Performing Organic Coatings on Aluminium Extrusions and Panels" or EN13523 "Coil Coated Metals - Test Methods" Application of the Fluoropolymer coating system by means of spray coating before or after forming and shaping of the cladding elements shall not be permitted.

Protective Peel Off Foil:
The finished surface shall be factory protected with a self-adhesive UV stabilised peel-off foil to protect the applied finish during fabrication, delivery and installation processes and shall not be removed until panels have been installed.

ULTRACORE Non-combustible Aluminium Core Panel – Draft Specification (V0919)
Page 1 of 3

Thanks Sincerely for your Time and Attention...

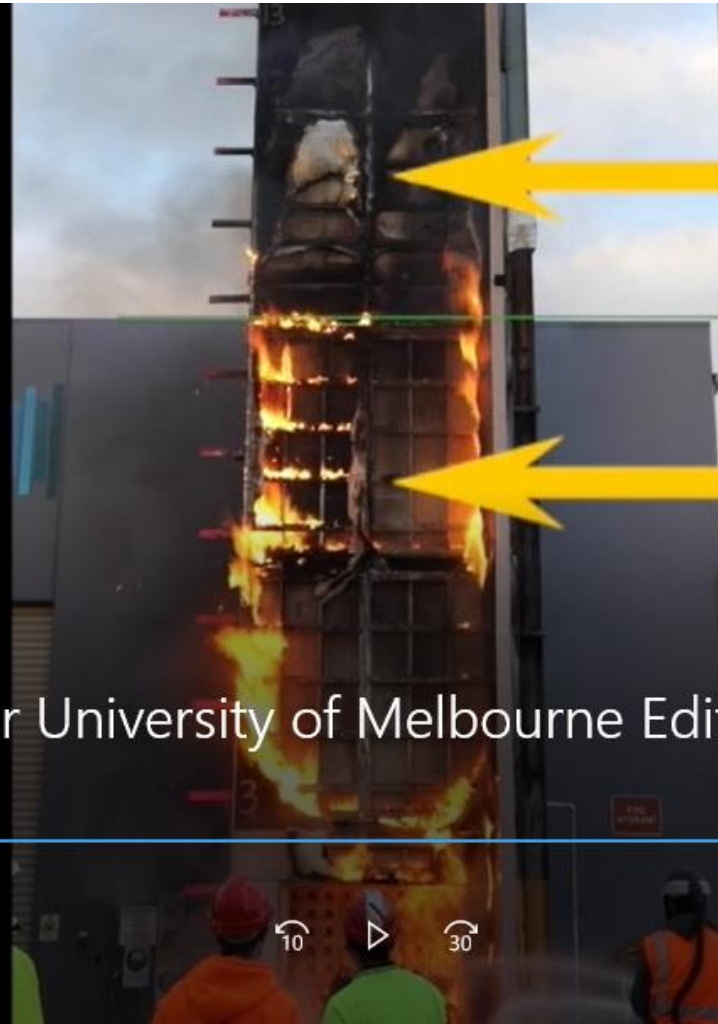


New National HQ &
Distribution Centre

To claim 1 formal CPD point please hand in your CPD attendance & assessment form or email it to; sales@bluechipgroup.net.au

Call 1300 945 123 to view this amazing 5m video

This incredible 18m high test based on AS 5113 had 2 levels of highly flammable PE core panels below 3 levels of ULTRACORE panels. After the 30min test and a raging PE fire, all the PE panels were completely gone and the ULTRACORE panels passed with flying colours, successfully stopped the vertical spread and proving beyond any doubt that it does not contribute to the Spread-of-Fire.



ULTRACORE Cladding

PE Panelling

ULTRACORE Fire-break Test for University of Melbourne Edited

0:05:12

X1 SPEED

0:00:21

